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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/788,763 | 02/27/2004 | Richard B. Fox | H0002720--1065 | 8451 |
| 7590 11/01/2005 | | | EXAMINER | |
| HONEYWELL INTERNATIONAL, INC. | | | KIM, TAE JUN | |
| Law Dept. AB2 | | | ART UNIT | |
| P.O. Box 2245 | | | PAPER NUMBER | |
| Morristown, NJ 07962-9806 | | | 3746 | |

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/788,763

Applicant(s)

FOX ET AL.

Examiner

Ted Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/26/04 08/17/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 27 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for claim 21, does not reasonably provide enablement for the subject matter of the collection bag in combination with the embodiment of claim 21. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 27 recites the limitation "said collection bag" and "the air conditioning supply vent." There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 1, 2, 8, 9, 15, 16, 19, are rejected under 35 U.S.C. 102(b) as being anticipated by Kaplan (5,437,199). Kaplan teaches a pressure reduction apparatus comprising: a hollow vessel 34 defining an interior and an exterior; a valve 33 affixed to said vessel to allow air to enter said vessel; and said vessel further defining a port (near 36) to allow air to exit said vessel; said valve prevents air from exiting said vessel through said valve. A vessel [for reducing the temperature and pressure in air drawn from a gas turbine engine is intended use] comprising a vessel body having an exterior and a substantially hollow interior; a valve affixed to said vessel body providing fluid communication between the exterior and the interior of said vessel body wherein said valve permits air to enter said vessel body and prevents air from exiting said vessel body; and said vessel body further defining an exit port providing fluid communication between the interior and the exterior of said vessel body; said vessel body is inherently of sufficient dimension such that air entering said vessel body is reduced in pressure and temperature in the interior of said vessel body (note that air only flows from higher pressure to lower pressure – see also the explanation of Kennedy, col. 5, lines 35+ as evidentiary support of this inherency). A second valve (one-way) 36 affixed to the exit port of said vessel body wherein said second valve allows air to exit said vessel body and prevents air from entering said vessel body through said exit port.

7. Claims 1-3, 8, 9, 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Cramer et al (4,109,509). Cramer et al teach a pressure reduction apparatus comprising: a hollow vessel 34 defining an interior and an exterior; a valve 34 affixed to said vessel to

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allow air to enter said vessel; and said vessel further defining a port (near 50) to allow air to exit said vessel; said valve prevents air from exiting said vessel through said valve. A vessel [for reducing the temperature and pressure in air drawn from a gas turbine engine is intended use] comprising a vessel body having an exterior and a substantially hollow interior; a valve affixed to said vessel body providing fluid communication between the exterior and the interior of said vessel body wherein said valve permits air to enter said vessel body and prevents air from exiting said vessel body; and said vessel body further defining an exit port providing fluid communication between the interior and the exterior of said vessel body; said vessel body is inherently of sufficient dimension such that air entering said vessel body is reduced in pressure and temperature in the interior of said vessel body (note that air only flows from higher pressure to lower pressure – see also the explanation of Kennedy, col. 5, lines 35+ as evidentiary support of this inherency). A second valve 46 affixed to the exit port of said vessel body wherein said second valve allows air to exit said vessel body and prevents air from entering said vessel body through said exit port.

8. Claims 1, 2, 6, 8, 9, 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Kennedy (4,285,245). Kennedy teaches a pressure reduction apparatus comprising: a hollow vessel 14 defining an interior and an exterior; a valve 15 affixed to said vessel to allow air to enter said vessel; and said vessel further defining a port (near 11) to allow air to exit said vessel; said valve prevents air from exiting said vessel through said valve. A vessel [for reducing the temperature and pressure in air drawn from a gas turbine engine

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is intended use] comprising a vessel body having an exterior and a substantially hollow interior; a valve affixed to said vessel body providing fluid communication between the exterior and the interior of said vessel body wherein said valve permits air to enter said vessel body and prevents air from exiting said vessel body; and said vessel body further defining an exit port providing fluid communication between the interior and the exterior of said vessel body; said vessel body is inherently of sufficient dimension such that air entering said vessel body is reduced in pressure and temperature in the interior of said vessel body (see col. 5, lines 35+). A second valve 12 affixed to the exit port of said vessel body wherein said second valve allows air to exit said vessel body and prevents air from entering said vessel body through said exit port. This claim interpretation treats the use of air as intended use or alternately, the structure of Kennedy is inherently capable of being used with air; a pressure gauge 16 for measuring air pressure in the interior of said vessel.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-5, 8-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cramer et al (4,109,509) in view of Cleaves (3,446,425). Cramer et al teach various

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aspects of the claims including the bleed air source being on the aircraft 130 but does not mention the gas turbine engine. Cleeves teaches that the gas turbine compressor bleed air (col. 1, lines 38-67) is taken to the aircraft air conditioning/cabin (col. 4, lines 24+). It would have been obvious to one of ordinary skill in the art to source the bleed air of Cramer et al from the gas turbine engines as a well known source of bleed air in such an environment. As for the materials being aluminum or aluminum alloy or stainless steel, these are old and well known in the art for their use in such an environment and would have been obvious to use as an obvious matter of employing the conventional materials used in the art. The interior of said vessel body defines a sufficient volume such that air admitted to said vessel body from a gas turbine engine is sufficiently reduced in temperature and pressure at the interior of said vessel body for testing for the presence of inorganic compounds (e.g. oxygen is inorganic); wherein the interior of said vessel body defines a sufficient volume such that air admitted to said vessel body from a gas turbine engine bleed valve is reduced in temperature and pressure at the interior of said vessel body to approximately ambient conditions.

11. Claims 1-27, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over either Kennedy (4,285,245) or Vander Heyden et al (Re 35,639) in view of Cleeves (3,446,425) and optionally Shulten et al (6,230,573). Kennedy teaches a pressure reduction apparatus comprising: a hollow vessel 14 defining an interior and an exterior; a valve 15 affixed to said vessel to allow gas to enter said vessel; and said vessel further defining a port (near 11) to allow gas to exit said vessel; said valve prevents gas

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from exiting said vessel through said valve; a pressure gauge 16 at the sample port, a second valve 12 at the exit port, tubes for 15 and 11 and that the samples are taken of the gas, including for e.g. chromatography applications and/or testing the gas composition (col. 1, lines 7+). Vander Heyden et al teach a pressure reduction apparatus comprising: a hollow vessel 20 defining an interior and an exterior; a valve S affixed to said vessel to allow gas to enter said vessel; and said vessel further defining a port (near 38) to allow gas to exit said vessel; said valve prevents gas from exiting said vessel through said valve; a pressure gauge 36 at the sample port, a second valve 38 at the exit port, tubes for 15 and 11 and that the samples are taken of the gas. As for the materials being aluminum or aluminum alloy or stainless steel, these are old and well known in the art for their use in such an environment and would have been obvious to use as an obvious matter of employing the conventional materials used in the art. The interior of said vessel body defines a sufficient volume such that air admitted to said vessel body from a gas turbine engine is sufficiently reduced in temperature and pressure at the interior of said vessel body for testing for the presence of inorganic compounds; wherein the interior of said vessel body defines a sufficient volume such that air admitted to said vessel body from a gas turbine engine bleed valve is reduced in temperature and pressure at the interior of said vessel body to approximately ambient conditions. As for the use of a temperature sensor, Kennedy teaches that it is old and well known in the art to require knowledge of the temperature of the vessel (col. 5, lines 55+) and it would have been obvious to one of ordinary skill in the art to employ a temperature sensor to meet that need. Kennedy and

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Vander Heyden et al do not teach the apparatus is used with bleed air from a gas turbine compressor. Cleeves teaches that the gas turbine compressor bleed air (col. 1, lines 38-67) is taken to the aircraft air conditioning/cabin (col. 4, lines 24+) and that this air contains contaminants. It would have been obvious to one of ordinary skill in the art to employ to test for impurities/composition of the bleed air of Cleeves to ensure a healthy environment and/or to test for filter efficiency and/or to enhancing maintenance of the air conditioning system. As for the various materials of the tubes/hoses being carbon impregnated Teflon or silicone, these types of materials are well known for the hoses/tubing of aircraft and would have been obvious to employ for their reliability and/or suitability in high temperature environments. Kennedy and Vander Heyden et al do not teach the valve is a ball valve, however, Shulten et al show that show ball valves 13 are notoriously old and well known in the art. It would have been obvious to one of ordinary skill in the art to employ a ball valve as the conventional practice in the art.

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax numbers for the organization where this application is assigned are 571-273-8300 for Regular faxes and 571-273-8300 for After Final faxes.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe, can be reached at 571-272-4444.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of Technology Center 3700, whose telephone number is 703-308-0861. General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>



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